



HAWAII STATE
DEPARTMENT
OF HEALTH

HEALTHCARE-ASSOCIATED
INFECTIONS IN HAWAII

2017
Report

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Executive Summary:

Healthcare-associated infections (HAIs) are infections associated with receiving treatment in a healthcare setting. According to a 2011 survey by the Centers for Disease Control and Prevention (CDC), about 1 in 25 hospital patients in the United States had at least one HAI¹. The total cost of HAIs to U.S. hospitals has been estimated at almost \$33 billion per year².

The following report includes information about specific HAIs among patients who received treatment in Hawaii's acute care facilities in 2017, as well as a report of influenza vaccination coverage in Hawaii facilities for the 2017–2018 influenza season. This report contains data for conditions mandated by the Centers for Medicare and Medicaid Services (CMS) for the Inpatient Quality Reporting (IQR) program as mandated by [Hawaii Revised Statutes §325-2.5](#). Please note that, beginning in 2016, critical access hospitals were required to report influenza vaccination coverage as part of Medicare Beneficiary Quality Improvement Project (MBQIP).

Overall, the statewide infection rates were lower than predicted; with central line-associated bloodstream infection (CLABSI), *Clostridium difficile* infections (CDI) and methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia being statistically significantly lower (see below). Continued efforts in infection prevention are necessary to maintain our successes in HAI reduction. For each condition in the report, compared with the nationally predicted levels, there were (* denotes statistical significance):

- 71% fewer CLABSIs*
- 14% fewer Catheter-associated urinary tract infections (CAUTI)
- 13% fewer colon (COLO) surgical site infections (SSIs)
- 52% fewer abdominal hysterectomy (HYST) SSIs
- 30% fewer CDIs*
- 45% fewer MRSA bacteremia events*

Hawaii continues to work towards long term goals in HAI reduction. In October 2016, the U.S. Department of Health & Human Services (DHHS) announced new HAI Prevention Targets to be achieved by 2020³. This year, Hawaii has achieved those targets for each condition, with the exception of CAUTI and SSI. As a measure of national success, CDC calculated a new baseline using 2015 national data; this will drive prevention targets closer to zero HAIs. Additional strategies may be needed to address CAUTIs and SSIs and to further reduce HAIs in general to achieve these updated goals.

Influenza vaccination coverage of 90% of a facility's healthcare personnel is a DHHS Healthy People 2020 goal⁴; The Joint Commission (TJC) requires facilities set incremental goals to achieve this goal⁵. Vaccination coverage by hospitals in our state ranged from 54% to 98%, and the overall state average was 84% for the 2017–2018 influenza season. This is an improvement from last year's flu season (2016-2017) when the Hawaii average was 82%⁶. The state average for the 2017–2018 influenza season showed improvement, but only eight facilities have attained the Healthy People 2020 goal, indicating that this continues to be an area deserving of increased focus by facilities.

Many factors contribute to a healthcare facility's reported infection rate, both within the facility as a whole and at the level of individual provider practices and individual patient situations. Hawaii's healthcare sector continues to stay abreast and even ahead of national peers in controlling the incidence of HAIs. Many of Hawaii's healthcare facilities are actively involved in collaboratives to reduce HAIs (e.g., [Partnership for Patients](#), [Hawaii Antimicrobial Stewardship Collaborative](#), and [Improving Surgical Care and Recovery](#)). Continued vigilance and education are necessary to ensure HAIs become the exceptions rather than accepted consequences of hospitalizations.

¹ <https://www.cdc.gov/hai/surveillance/index.html>

² https://www.cdc.gov/hai/pdfs/hai/scott_costpaper.pdf

³ <https://health.gov/hcq/prevent-hai-measures.asp>

⁴ http://www.healthypeople.gov/node/6361/data_details

⁵ http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf

⁶ <http://www.cdc.gov/flu/fluview/healthcare/trends1314-1415/trends-1415.html>

Introduction:

Healthcare-associated infections (HAIs) are infections related to receiving treatment in a healthcare setting. For each type of infection affecting a patient in a healthcare setting, specific criteria are used to determine whether the infection is an HAI for the purposes of surveillance. For example, if a bloodstream infection develops in a patient on or after the third hospital day (day of admission is day one), the infection is considered an HAI. Bloodstream infections occurring within the first two hospital days are considered community-associated infections; i.e., they were acquired in the community before admission to the hospital.

In 2009, CDC estimated the direct cost of HAIs to U.S. hospitals ranged from \$28.4 to \$33.8 billion (after adjusting to 2007 dollars). According to a 2011 survey by CDC, approximately one in 25 hospital patients developed at least one HAI. There were an estimated 722,000 HAIs in U.S. acute care hospitals in 2011, and about 75,000 patients with HAIs died during their hospitalizations.

HAIs have decreased dramatically in hospitals across the nation, including Hawaii. New technologies, more teamwork, and a reliance on evidence-based practices have had a considerable impact on safety and quality of care. Just 15 years ago, HAIs were considered an unavoidable risk of being hospitalized. Today many intensive care units and other inpatient wards are reporting 6, 12, and even 24 consecutive months without a single case of healthcare-associated bloodstream, urinary tract, or pneumonia infections.

The CDC's most [recent HAI Progress report](#) (assessing 2015 data), shows that the nation continues to strive to reduce HAIs across the board. Hawaii's standardized infection ratios (SIRs) for all reported conditions was lower (better) when compared to the national SIR. Additionally, among the hospitals with enough data to calculate an SIR, there were no facilities with a significantly higher (worse) SIR compared with national SIRs for central line-associated bloodstream infection (CLABSI), catheter-associated urinary tract infections (CAUTI), and *Clostridium difficile* infections (CDIs) ([Hawaii Progress Fact Sheet](#)).

The following report includes information about HAIs among patients who received treatment requiring specific types of devices or procedures in Hawaii's acute care facilities in 2017. In 2011, the Hawaii legislature [passed HRS §325-2.5](#), relating to HAI reporting. Healthcare facilities have granted the Hawaii Department of Health (HDOH) access to HAI data reported under the Centers for Medicare and Medicaid Services (CMS) rules to the [National Healthcare Safety Network \(NHSN\)](#).

The statute also instructs HDOH to prepare public reports of Hawaii HAI rates using methodology developed by CDC and CMS. The [first Hawaii HAI report](#) was released in 2013 and contained data for conditions mandated by CMS for the Inpatient Quality Reporting (IQR) program for calendar year 2012, including all CLABSI and CAUTI in intensive care unit (ICU) locations as well as all inpatient surgical site infections (SSIs) after abdominal hysterectomy (HYST) and colon (COLO) surgeries. The 2013, Hawaii HAI Report added data on methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia, CDI, and healthcare personnel (HCP) influenza vaccination rates. These data were presented for the entire facility. The 2015 report added CLABSI and CAUTI data for medical and surgical wards (in addition to ICU data) in accordance with IQR reporting requirements. Please note that, beginning in 2016, critical access hospitals (CAHs) were required to report influenza vaccination coverage as part of Medicare Beneficiary Quality Improvement Project (MBQIP).

Figure 1 shows the location of each hospital included in this report. Hospitals not part of the CMS IQR program were excluded: Lanai Community Hospital, Leahi Hospital, and Tripler Army Medical Center. While Kahuku Medical Center, Kapiolani Medical Center for Women & Children, Kauai Veterans Memorial Hospital, and Shriners Hospital for Children also fall into this category, they have voluntarily shared their data with HDOH and are therefore included in this report. Rehabilitation Hospital of the Pacific participates in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination, and their influenza vaccination coverage is included in this report. Likewise, Kahi Mohala is included as part of the inpatient psychiatric facility reporting program. The following CAHs provide their HCP influenza vaccination coverage data to HDOH as part of MBQIP reporting: Kahuku Medical Center, Kau Hospital, Kauai Veterans Memorial Hospital, Kohala Hospital, Kula Hospital, Hale Hoola Hamakua, Molokai General Hospital, Samuel Mahelona Memorial Hospital.

Locations of Hospitals Included in the 2017 Hawaii HAI Report

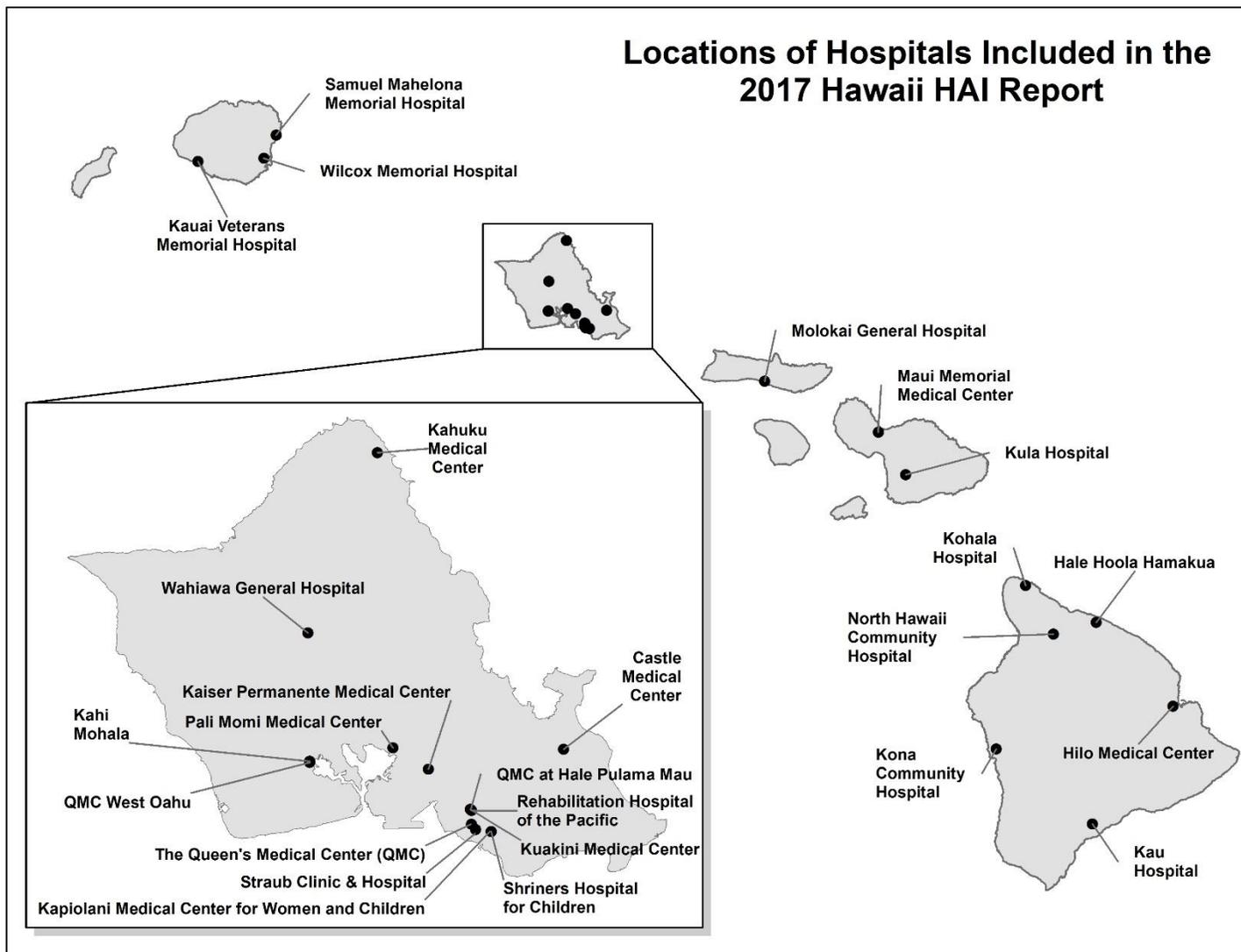


Figure 1: Locations of hospitals included in the 2017 HAI Report

The information in this report is consistent with HAI data published in [CDC reports](#) and on the CMS website [Hospital Compare](#). Please note the Hospital Compare website may have some discrepancies compared with our report because data submitted to CMS cannot be corrected or updated by facilities once a quarterly submission period has ended. Additionally, for SSI, CMS utilizes slightly different statistical models which may generate small discrepancies.

The measures in this report do not represent all infections associated with healthcare but provide an overview of how a facility is doing in preventing HAIs. Many factors contribute to a healthcare facility's reported HAI rate, both within the facility as a whole and at the level of individual provider practices and individual patient situations. However, these infections are largely preventable when healthcare providers adhere to [infection prevention best practices](#). Hawaii's healthcare sector continues to stay abreast and even ahead of national peers in controlling the incidence of HAIs. Continued vigilance and education are necessary to ensure HAIs become rare exceptions rather than accepted consequences of hospitalizations.

Methods:

HDOH utilizes CDC's NHSN system for HAI reporting. NHSN is a free, secure, web-based surveillance system developed by CDC and is used by over 22,000 healthcare facilities in the nation. NHSN has data collection modules covering a wide variety of HAIs from many types of healthcare organizations. The data are risk-adjusted and aggregated with standardized numerator and denominator definitions to allow for comparison against a national benchmark.

The six CMS-mandated HAIs are presented using a standardized infection ratio (SIR). The SIR is a summary measure which compares the number of infections associated with a facility's number of device days (CLABSI and CAUTI), procedures (SSI), or patient days (CDI and MRSA bacteremia) with national baseline data. The national data include all U.S. hospitals reporting data to CDC's NHSN database.

The SIR accounts for some risk factors, including patient characteristics, which could increase or decrease a patient's risk of infection. This adjustment for differences in risk allows for reasonable comparisons among hospitals, regardless of patient characteristics. The findings in this report are based on the assumption that patients at Hawaii hospitals are similar to all patients in the NHSN database. Lower SIRs indicate better performance.

The SIR is a ratio describing a hospital's actual infection numbers divided by with a predicted number calculated using national baseline data. Since the NHSN database does not contain data for every HAI in the United States, there is a level of uncertainty associated with the estimated SIR. This uncertainty is represented by a 95% confidence interval (CI; presented as an error bar). This means we have a high degree of confidence (in this case, 95%) the true SIR lies within this range. CIs provide a simple way to determine statistical significance. If the confidence interval includes the value of 1, then the SIR is not considered significant (i.e., the number of observed events is not significantly different than the number predicted). If the confidence interval does not include the value of 1, then the SIR is significant. ([Click here for a technical guide on the SIR](#)).

This report also presents HCP influenza vaccination status in Hawaii's healthcare facilities. HCP include employees, licensed independent practitioners, adult students/trainees and volunteers. Additionally, there is an optional category that includes other contract personnel: direct care providers and providers of non-direct services such as maintenance, IT, or dietary food staff. The proportion of HCP vaccinated was calculated as the number of workers known to be vaccinated divided by the total number of workers in the facility. Influenza vaccination coverage of 90% of a facility's healthcare personnel is a U.S. Department of Health and Human Services Healthy People 2020 goal⁷; The Joint Commission on Accreditation (TJC) requires facilities set incremental goals to achieve the 90% rate⁸. For the purposes of this report, facility benchmarks were set at 90% (the Healthy People 2020 goal), 88% (the 2016–2017 National average) and 82% (the 2016–2017 state average). Additionally, data are included from the Rehabilitation Hospital of the Pacific, an inpatient rehabilitation facility, Kahi Mohala, an inpatient psychiatric facility, and several CAHs. These facilities participate in a number of non-IQR CMS reporting programs, it should be noted that these facilities may not be comparable with acute care facilities.

⁷ http://www.healthypeople.gov/node/6361/data_details

⁸ http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf

Limitations:

These reports cover data from January 1, 2017 to December 31, 2017, and the data were downloaded from NHSN on **August 21, 2018**; any changes made to the data after this date are not reflected in this report. The 2017 data presented in this report have not been validated. Validation is defined as a survey and audit process which would be performed by HDOH to accuracy of NHSN surveillance and reporting. However, the 2017 data have been assessed for completeness and quality.

A hospital's ability to detect HAI cases varies between hospitals because of the different resources available for surveillance, methodology employed, and infection prevention methods implemented. Higher HAI rates may be attributable to superior surveillance of HAIs rather than an actual higher number of events.

The national data used for comparison in these data analyses are the NHSN aggregated data from national HAI data. Data collected in 2015 was used as the new baseline for 2016 and will be used for all subsequent years (including the 2017 data in this report); it is important to note that 2016 and future reports are not be comparable with reports using the earlier baselines (e.g. 2012-2014 data). Also, with the new baseline, facility SIRs have increased and shifted closer to 1 ([click here for more information about the updated NHSN baseline](#)).



Additionally, for HCP influenza vaccination, caution should be used in applying these data as an estimate of the overall number of healthcare workers vaccinated in the state. In some instances, a single healthcare worker may be counted in multiple hospitals, and therefore the total number of vaccinated personnel in the state as shown in this table may be inflated.

Instructions for Reading the Graphs and Tables:

Since the SIR is an estimate, the graphs included in this report display an associated CI using an error bar; please see the methods section for definitions of the SIR and CI. For hospitals with smaller volumes, the error bar is wider.

The closer the SIR is to 1.0, the closer the actual number of infections was to the predicted number of infections for a given hospital. A SIR greater than 1.0 indicates more HAIs were observed than predicted; conversely, a SIR less than 1.0 indicates fewer HAIs were observed than predicted. A SIR of 0.0 means the hospital had no infections during the time period. The SIR can only be calculated if the number of predicted infections for the hospital is greater than 1.0. When the number of predicted infections is less than 1.0, the number of device days, procedures, or patient days in that facility is too low to calculate a reliable SIR. For this reason, a SIR could not be calculated for every facility in Hawaii.

There are four possible results for a hospital's SIR:

- If the error bar on the graph (95% CI) falls completely below the reference line of 1.0, the number of infections was **significantly lower (better)** than what we would predict, based on national data. This is represented by a green checkmark:  on the table or a green circle:  on the SIR graph.
- If the error bar crosses over the reference line of 1.0, the number of infections **was similar (not significantly different)** than predicted, based on national data. This is represented by a yellow equals sign:  on the table or a yellow square:  on the SIR graph.
- If the error bar falls completely above the reference line of 1.0, the number of infections was **significantly higher (worse)** than predicted, based on national data. This is represented by a yield sign:  on the table or a red diamond:  on the SIR graph.
- If the number of **predicted infections is less than 1.0**, then an SIR could not be calculated. This is represented by a white triangle  on the table and will not be included on the SIR graph (indicated by an * by the facility name).

Additionally, facilities achieving zero infections during the specified time period are marked with a green flower  next to the facility name in the table.



What is a Central Line-Associated Bloodstream Infection (CLABSI)?

A “central line” or “central catheter” is a tube placed into a patient’s large vein, usually in the neck, chest, arm, or groin. The central line is often used to draw blood or give fluids or medications. It may be left in place for several weeks. A bloodstream infection can occur when bacteria or other germs travel into a “central line” and enter the bloodstream. If you develop a central line-associated bloodstream infection (CLABSI) you may become ill with fevers and chills, or the skin around the central line may become sore and red. For more information, visit CDC’s [CLABSI website](#).

What are some of the things hospitals do to prevent CLABSI?

To prevent CLABSI, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before putting in the central line.
- Wear a mask, cap, sterile gown, and gloves when putting in the catheter.
- Clean their hands, wear gloves, and clean the central line opening with an antiseptic solution before using the central line to draw blood or give medications. Healthcare providers also clean their hands and wear gloves when changing the bandage covering the area the central line enters the skin.
- Evaluate every day whether the patient still needs to have the central line. The central line is removed as soon as it is no longer needed.

What can you do to help prevent a CLABSI?

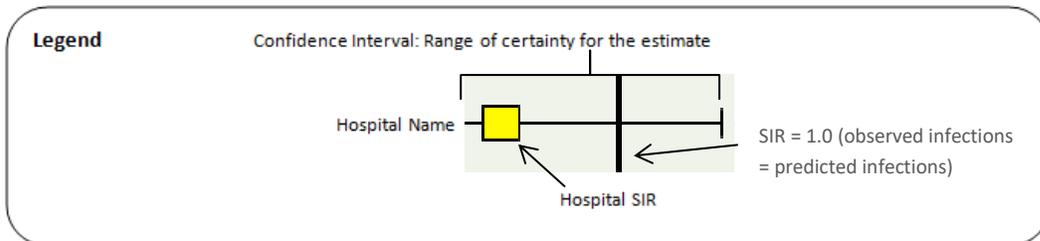
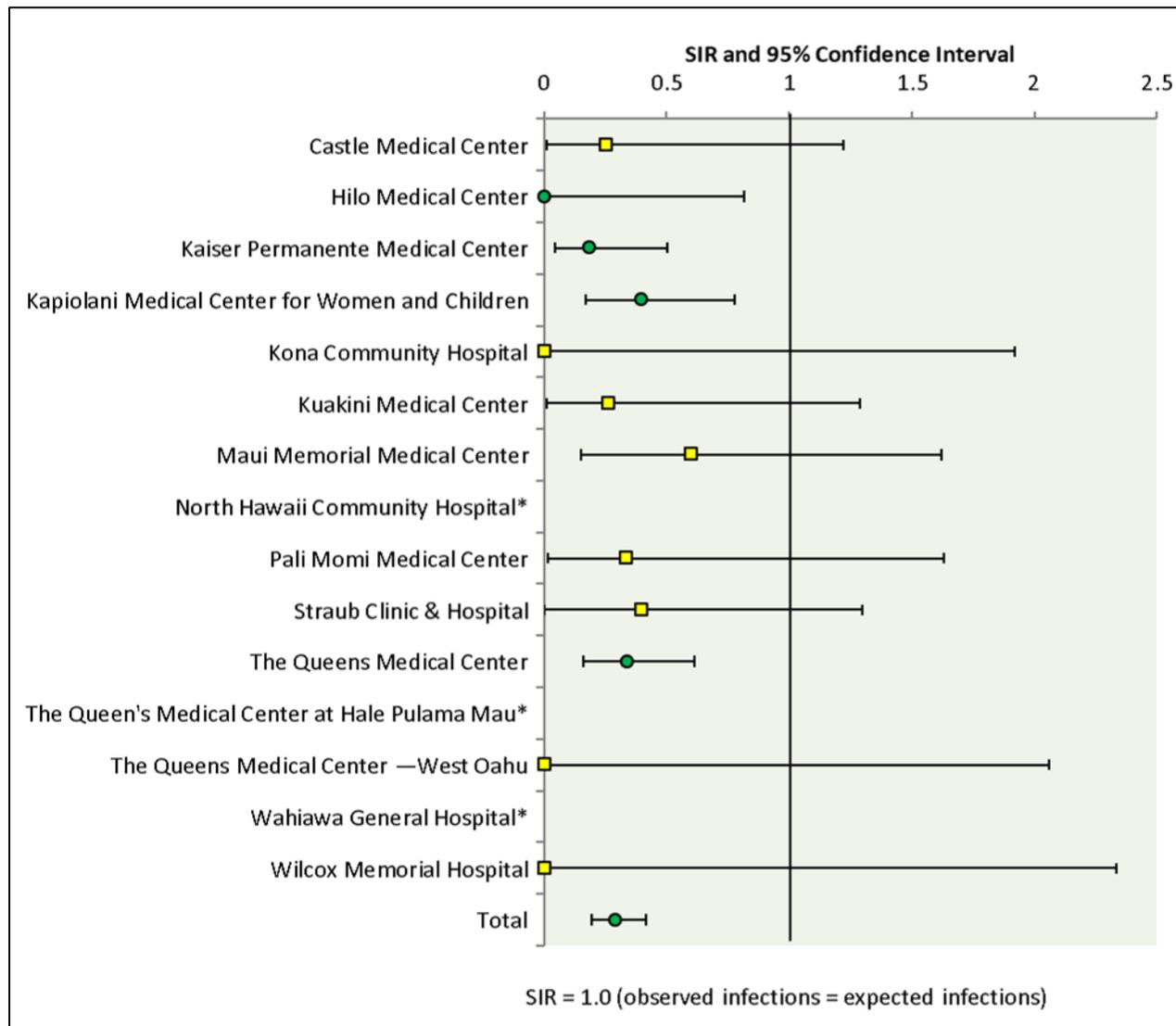
- Ask your doctors and nurses to explain why you need the central line and how long you will have it.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, please ask them to do so.
- Inform your nurse or doctor if the area around your central line is sore or red and if the bandage comes off or becomes wet or dirty.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

What is the current situation of CLABSIs?

- In 2017, 27 CLABSIs were reported in ICU & medical/surgical ward locations within acute care hospitals in Hawaii. This was nearly 70% lower than predicted.
- Hawaii achieved the DHHS 2020 HAI prevention target (SIR of 0.50) with an SIR of 0.29.

SIRs for Central Line-Associated Bloodstream Infections in Acute Care ICUs & Medical/Surgical Wards

January 1, 2017 – December 31, 2017



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

Central Line-Associated Bloodstream Infections in ICUs & Medical/Surgical Wards
January 1, 2017 through December 31, 2017

Facility Name	Hospital Performance Compared to National Data	Number of Infections	Number of Predicted Infections	Number of Central Line Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		1	4.04	5,942	0.25	0.01, 1.22
Hilo Medical Center		0	3.67	4725	0.00	0.00, 0.82
Kaiser Permanente Medical Center		3	16.29	15,319	0.18	0.05, 0.50
Kapiolani Medical Center for Women and Children		7	17.76	15,322	0.39	0.17, 0.78
Kona Community Hospital		0	1.56	2,270	0.00	0.00, 1.92
Kuakini Medical Center		1	3.83	4,706	0.26	0.01, 1.29
Maui Memorial Medical Center		3	5.03	7,034	0.60	0.15, 1.62
North Hawaii Community Hospital		0	0.43	707	Too Small to Calculate	
Pali Momi Medical Center		1	3.03	3,269	0.33	0.02, 1.63
Straub Clinic & Hospital		2	5.09	7,336	0.39	0.07, 1.30
The Queen's Medical Center		9	26.89	25,774	0.34	0.16, 0.61
The Queen's Medical Center at Hale Pulama Mau		0	1.87	2,484	Too Small to Calculate	
The Queens Medical Center — West Oahu		0	1.46	2,014	0.00	0.00, 2.06
Wahiawa General Hospital		0	0.67	923	Too Small to Calculate	
Wilcox Memorial Hospital		0	1.28	2,112	0.00	0.00, 2.34
Hawaii Total — Acute care facilities		27	92.89	99,937	0.29	0.2, 0.42
Kahuku Medical Center†		1	0.26	955	Too Small to Calculate	
Kauai Veterans Memorial Hospital†		0	0.08	308	Too Small to Calculate	

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CLABSI to NHSN. Source of national baseline data: 2015 NHSN CLABSI Data. Data contained in this report were last generated on August 21, 2018.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

Legend:

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- = Number of infections was **higher (worse)** than predicted
- = Patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Catheter-Associated Urinary Tract Infections



What is a Catheter-Associated Urinary Tract Infection (CAUTI)?

A urinary catheter is a thin tube placed in the bladder to drain urine. Urine drains through the tube into a bag to collect the urine. People with urinary catheters have a much higher chance of getting a urinary tract infection than people who do not have a catheter. A urinary tract infection is an infection in the urinary system, which includes the bladder (stores the urine) and the kidneys (filter the blood to make urine). Germs (for example, bacteria or yeasts) do not normally live in these areas; if germs are introduced, an infection can occur. If you have a urinary catheter, germs can travel along the catheter and cause an infection in your bladder or your kidney, in which case it is called a catheter-associated urinary tract infection (CAUTI). For more information, visit CDC's [CAUTI website](#).

What are some of the things hospitals are doing to prevent CAUTI?

To prevent CAUTI, doctors, nurses, and other healthcare providers:

- Put in catheters only when necessary and routinely evaluate to determine if they can be removed as soon as possible.
- Only allow catheters to be inserted and removed by properly trained persons using sterile (clean) technique.
- Clean the skin in the area where the catheter will be inserted before inserting the catheter.
- Clean their hands by washing them with soap and water or using an alcohol-based hand rub before and after touching a catheter.

What can you do to help prevent a CAUTI?

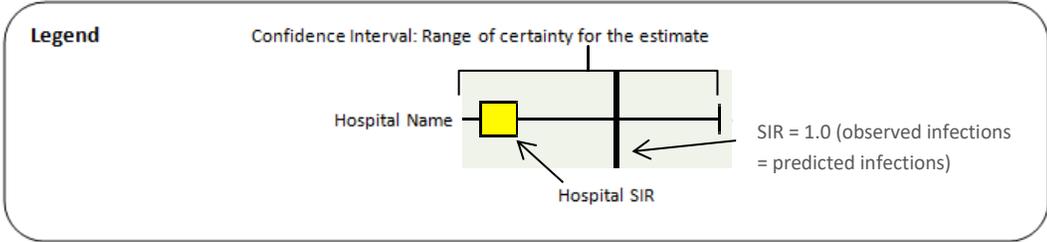
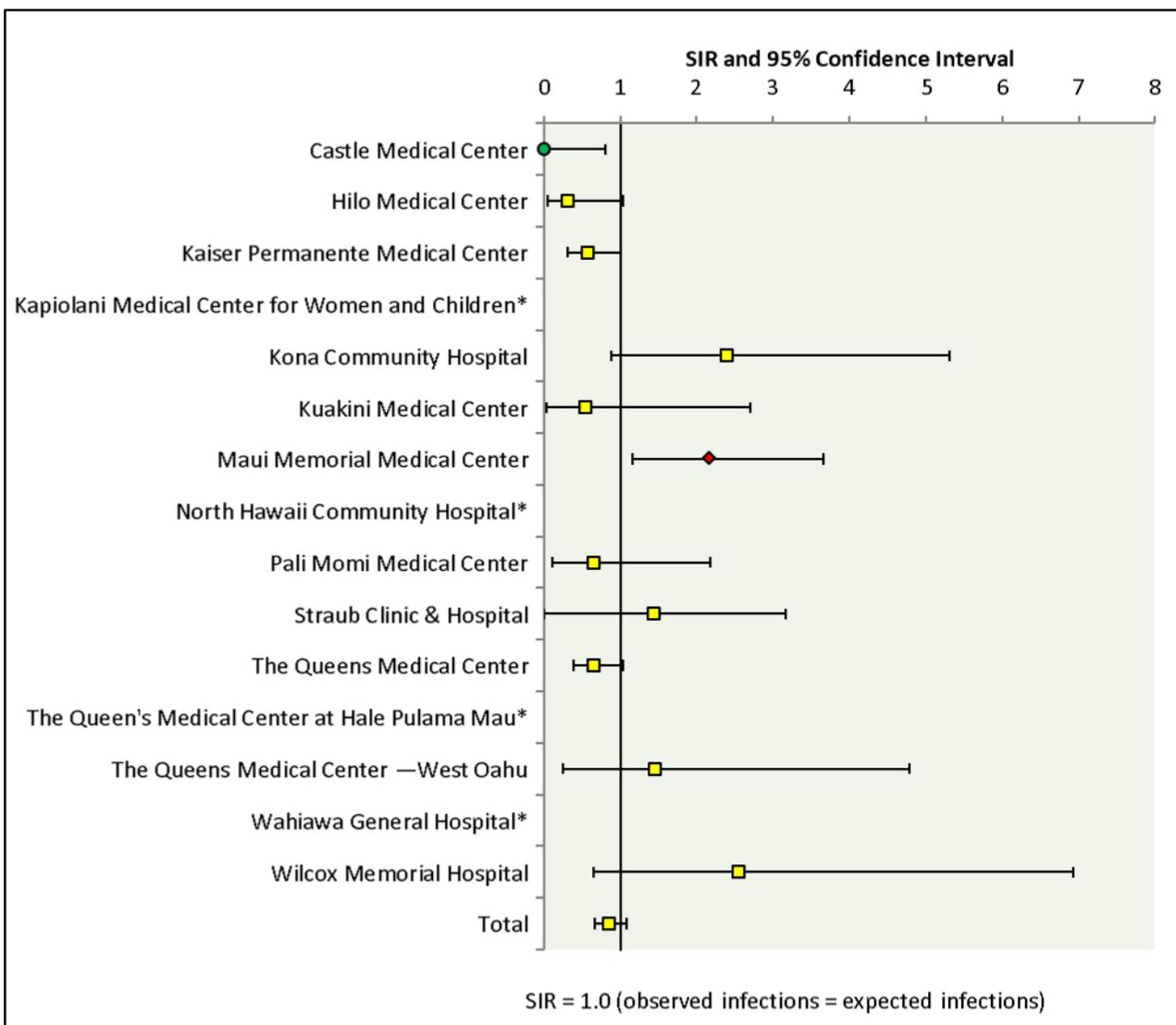
- Ask your healthcare provider each day if you still need the catheter.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, please ask them to do so.
- Always clean your hands before and after performing catheter care.
- Always keep your urine bag below the level of your bladder.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

What is the current situation of CAUTIs?

- In 2017, 65 CAUTIs were reported in ICU & medical/surgical ward locations within acute care hospitals in Hawaii. This was 14% lower than predicted.
- Hawaii did not achieve the DHHS 2020 HAI prevention target (SIR of 0.75) with an SIR of 0.86.

SIRs for Catheter-Associated Urinary Tract Infections in ICUs & Medical/Surgical Wards

January 1, 2017 – December 31, 2017



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

Catheter-Associated Urinary Tract Infections in ICUs & Medical/Surgical Wards
January 1, 2017 through December 31, 2017

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Catheter Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center 		0	3.70	5,264	0.00	0, 0.81
Hilo Medical Center		2	6.40	7,839	0.31	0.05, 1.03
Kaiser Permanente Medical Center		11	19.05	14,904	0.58	0.30, 1.00
Kapiolani Medical Center for Women and Children		2	0.91	1,194	Too Small to Calculate	
Kona Community Hospital		5	2.09	3,039	2.39	0.88, 5.30
Kuakini Medical Center		1	1.82	2,296	0.55	0.03, 2.71
Maui Memorial Medical Center		12	5.57	6,500	2.15	1.17, 3.66
North Hawaii Community Hospital 		0	0.43	847	Too Small to Calculate	
Pali Momi Medical Center		2	3.04	2,984	0.66	0.11, 2.17
Straub Clinic & Hospital		5	3.50	5,001	1.43	0.52, 3.17
The Queen's Medical Center		17	25.89	16,750	0.66	0.4, 1.03
The Queen's Medical Center at Hale Pulama Mau		1	0.44	618	Too Small to Calculate	
The Queens Medical Center — West Oahu		2	1.38	2,306	1.45	0.24, 4.78
Wahiawa General Hospital		2	0.53	900	Too Small to Calculate	
Wilcox Memorial Hospital		3	1.18	2,313	2.55	0.65, 6.93
Hawaii Total — Acute care facilities		65	75.93	72,755	0.86	0.67, 1.08
Kahuku Medical Center† 		0	0.14	207	Too Small to Calculate	
Kauai Veterans Memorial Hospital† 		0	0.15	223	Too Small to Calculate	

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children is not mandated to report CAUTI to NHSN. Source of national baseline data: 2015 NHSN CAUTI Data. Data contained in this report were last generated on August 21, 2018.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

Legend:

-  = Number of infections was **lower (better)** than predicted
 -  = Number of infections was **similar (not significantly different)** to predicted
 -  = Number of infections was **higher (worse)** than predicted
 -  = Patients had too few catheter days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
 -  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Inpatient Colon Surgery—Surgical Site Infection



What is a Surgical Site Infection (SSI)?

A SSI is an infection occurring after surgery in the part of the body where the surgery took place. Most surgical patients do not develop an infection. However, infections develop in approximately 1 to 3 out of every 100 patients who have surgery in the United States. The most common symptoms of a SSI are redness and pain around the area of the surgery, drainage of cloudy fluid from the surgical wound, and fever. For more information, visit [CDC's SSI website](#).

What is Colon Surgery (COLO)?

COLO is a surgical procedure that includes incision (cutting), resection (removal), and sometimes the re-joining of any part(s) of the colon (large intestine). It does not include operations on the rectum (the rectum is the end of the colon); those involve a different surgical procedure.

What are some of the things hospitals are doing to prevent SSIs?

To prevent SSIs, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent just before the surgery.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor as that could cause microscopic wounds and possible entry points for bacteria.
- Give you antibiotics before your surgery starts to try to decrease the bacteria level on your skin and therefore limit your risk for infection. In most cases, you should get antibiotics within 60 minutes of the surgery; antibiotics should be stopped at most 24 hours after surgery.

What can you do to help prevent a SSI?

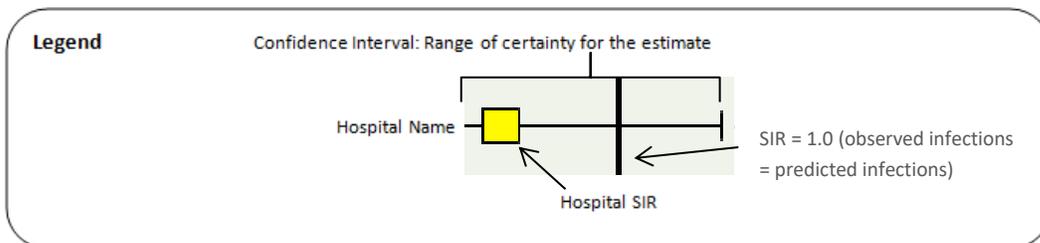
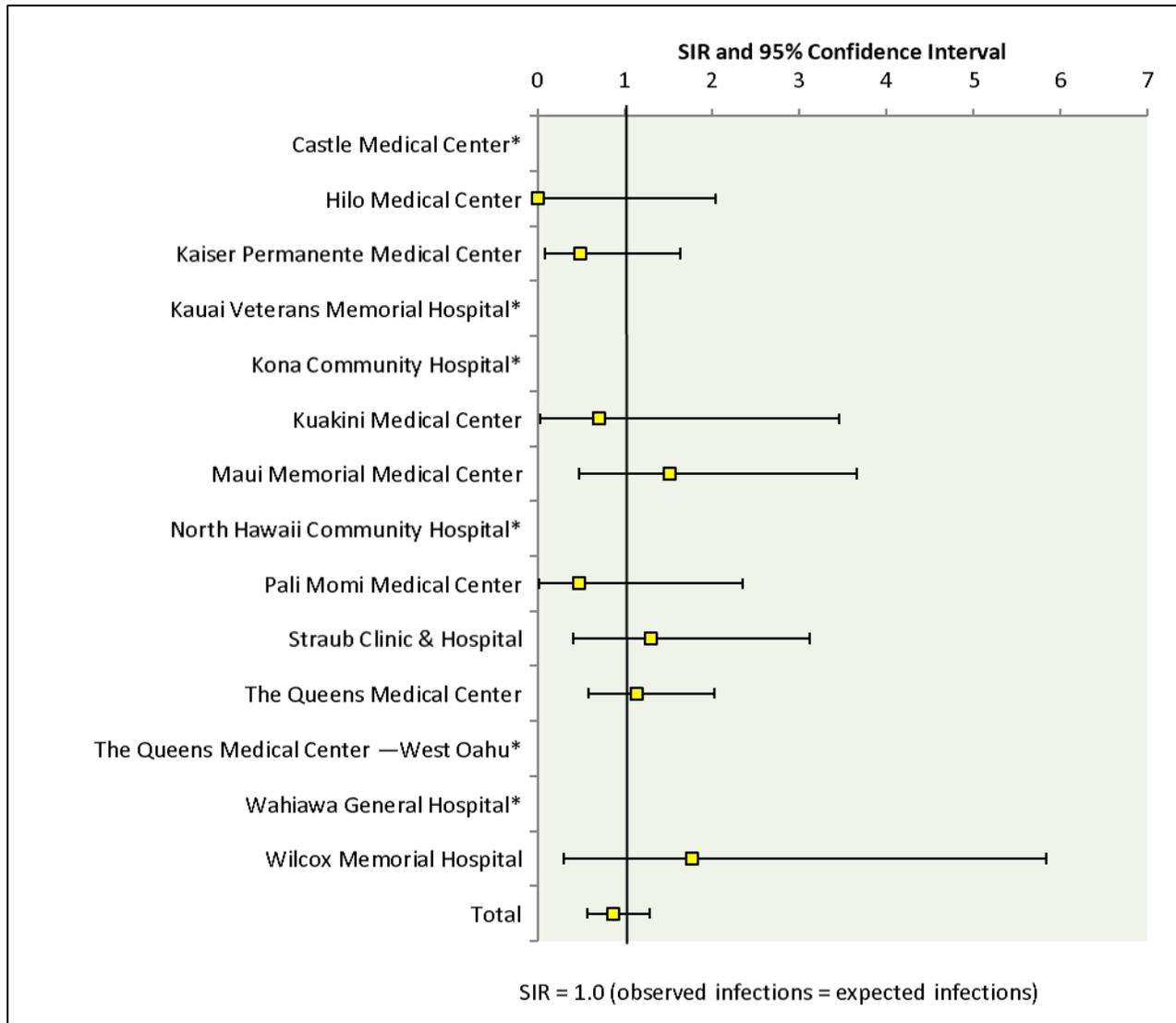
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Do not shave surgical area with a razor before surgery.
- Speak up if someone tries to shave you with a razor before surgery. Ask why you need to be shaved and talk with your surgeon if you have any concerns.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

What is the current situation of COLO SSIs?

- In 2017, 24 COLO SSIs were reported within Hawaii hospitals. This was 13% lower than predicted.
- Hawaii did not achieve the DHHS 2020 HAI prevention target (SIR of 0.75), with an SIR of 0.87.

SIRs for Inpatient Colon Surgery—Surgical Site Infection

January 1, 2017 – December 31, 2017



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient Colon Surgery—Surgical Site Infection
January 1, 2017 through December 31, 2017**

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Procedures	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center 🌿	△	0	0.95	45	Too Small to Calculate	
Hilo Medical Center 🌿	▬▬	0	1.47	57	0.00	0, 2.04
Kaiser Permanente Medical Center	▬▬	2	4.04	166	0.50	0.09, 1.64
Kauai Veterans Memorial Hospital 🌿	△	0	0.07	4	Too Small to Calculate	
Kona Community Hospital 🌿	△	0	0.47	31	Too Small to Calculate	
Kuakini Medical Center	▬▬	1	1.43	65	0.70	0.04, 3.46
Maui Memorial Medical Center	▬▬	4	2.64	114	1.52	0.48, 3.66
North Hawaii Community Hospital 🌿	△	0	0.48	26	Too Small to Calculate	
Pali Momi Medical Center	▬▬	1	2.09	93	0.48	0.02, 2.36
Straub Clinic & Hospital	▬▬	4	3.09	139	1.30	0.41, 3.12
The Queen's Medical Center	▬▬	10	8.76	285	1.14	0.58, 2.04
The Queens Medical Center — West Oahu 🌿	△	0	0.77	36	Too Small to Calculate	
Wahiawa General Hospital 🌿	△	0	0.06	4	Too Small to Calculate	
Wilcox Memorial Hospital	▬▬	2	1.13	48	1.77	0.30, 5.84
Hawaii Total	▬▬	24	27.45	1,113	0.87	0.57, 1.28

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children does not perform this procedure. Kapiolani Medical Center for Women and Children is not mandated to report COLO SSI to NHSN. Report excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs. Includes only procedures and associated SSIs that are reported with primary closure technique. Source of national baseline data: 2015 NHSN SSI Data. Data contained in this report were last generated on August 21, 2018.

Legend:

- ✓ = Number of infections was **lower (better)** than predicted
- ▬▬ = Number of infections was **similar (not significantly different)** to predicted
- ▽ = Number of infections was **higher (worse)** than predicted
- △ = ICU patients had too few COLO procedures to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- 🌿 = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Inpatient Abdominal Hysterectomy—Surgical Site Infection



What is a Surgical Site Infection (SSI)?

A SSI is an infection occurring after surgery in the part of the body where the surgery took place. Most surgical patients do not develop an infection. However, infections develop in approximately 1 to 3 out of every 100 patients who have surgery in the United States. The most common symptoms of a SSI are redness and pain around the area of the surgery, drainage of cloudy fluid from the surgical wound, and fever. For more information, visit [CDC's SSI website](#).

What is an Abdominal Hysterectomy (HYST)?

HYST is a procedure to remove the uterus through an incision in the abdominal (i.e., belly) wall. This includes hysterectomy procedures done by laparoscope. (Laparoscopy is an operation performed in the abdomen or pelvis through tiny incisions using small surgical tools and a camera to see the areas needing repair or removal.)

What are some of the things hospitals are doing to prevent SSIs?

To prevent SSIs, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent just before the surgery.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor as that could cause microscopic wounds and possible entry points for bacteria.
- Give you antibiotics before your surgery starts to try to decrease the bacteria level on your skin and therefore limit your risk for infection. In most cases, you should get antibiotics within 60 minutes of the surgery; antibiotics should be stopped at most 24 hours after surgery.

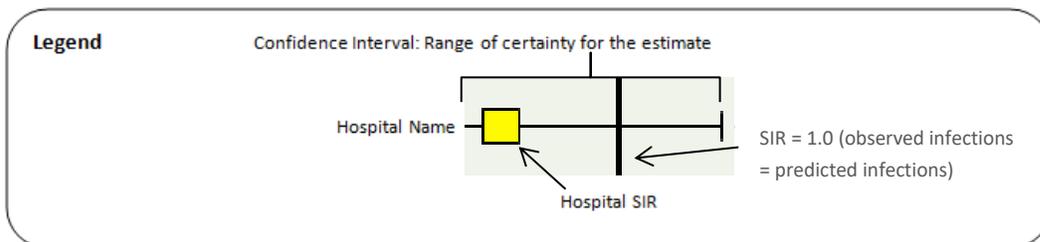
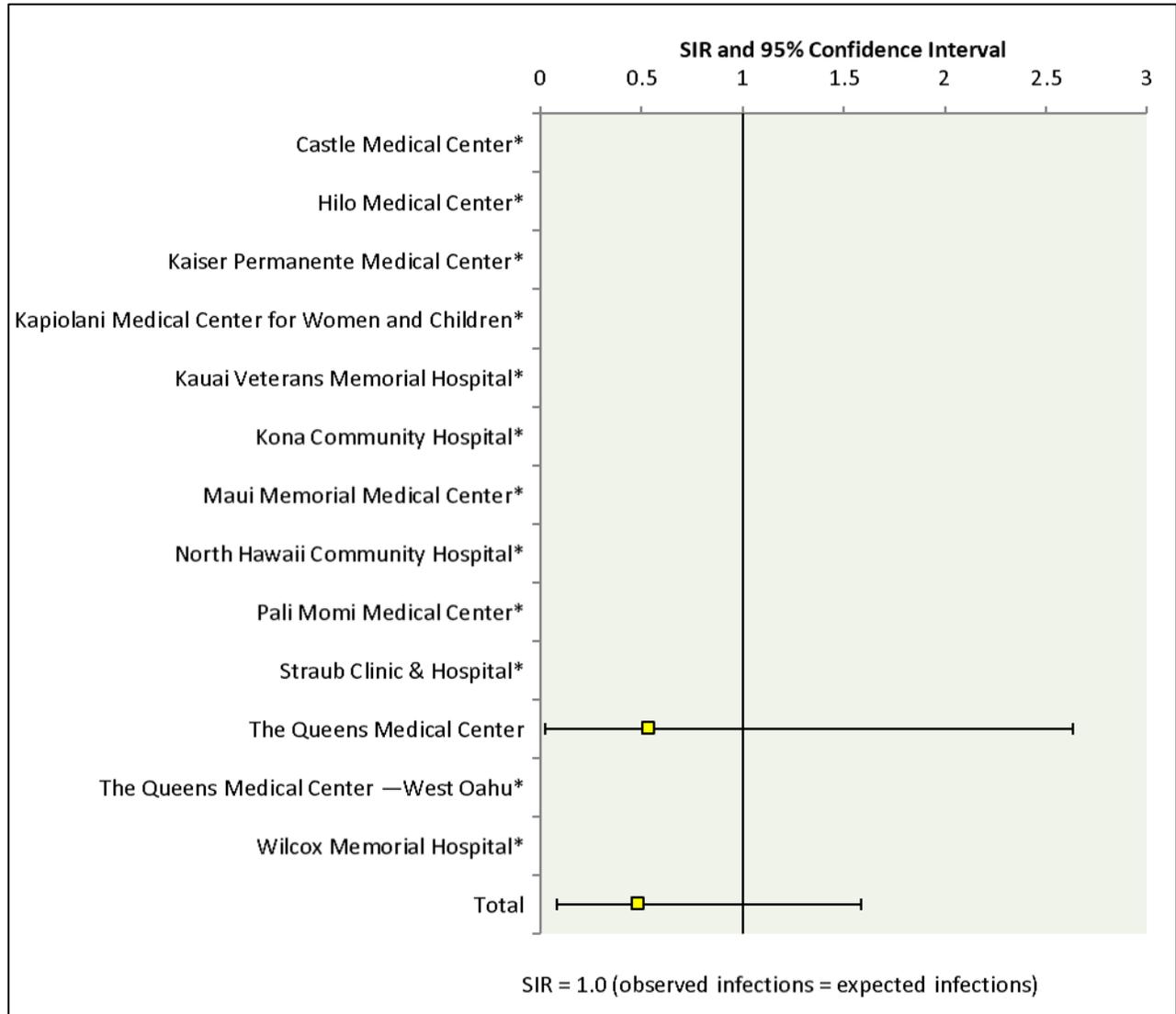
What can you do to help prevent a SSI?

- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Do not shave surgical area with a razor prior to surgery.
- Speak up if someone tries to shave you with a razor before surgery. Ask why you need to be shaved, and talk with your surgeon if you have any concerns.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

What is the current situation of HYST SSIs?

- In 2017, 2 HYST SSIs were reported within Hawaii hospitals. This was 52% lower than predicted.
- Hawaii achieved the DHHS 2020 HAI prevention target (SIR of 0.75), with an SIR of 0.48.

SIRs for Inpatient Abdominal Hysterectomy—Surgical Site Infection
 January 1, 2017 – December 31, 2017



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

Inpatient Abdominal Hysterectomy—Surgical Site Infection
January 1, 2017 through December 31, 2017

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Procedures	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center 🌺	△	0	0.11	21	Too Small to Calculate	
Hilo Medical Center 🌺	△	0	0.17	30	Too Small to Calculate	
Kaiser Permanente Medical Center	△	1	0.93	159	Too Small to Calculate	
Kapiolani Medical Center for Women and Children 🌺	△	0	0.53	75	Too Small to Calculate	
Kauai Veterans Memorial Hospital	△	0	0.01	1	Too Small to Calculate	
Kona Community Hospital 🌺	△	0	0.03	5	Too Small to Calculate	
Maui Memorial Medical Center 🌺	△	0	0.11	11	Too Small to Calculate	
North Hawaii Community Hospital 🌺	△	0	0.04	10	Too Small to Calculate	
Pali Momi Medical Center 🌺	△	0	0.19	21	Too Small to Calculate	
Straub Clinic & Hospital 🌺	△	0	0.02	4	Too Small to Calculate	
The Queen’s Medical Center 🌺	▬▬	1	1.88	255	0.53	0.03, 2.63
The Queens Medical Center — West Oahu 🌺	△	0	0.01	1	Too Small to Calculate	
Wilcox Memorial Hospital 🌺	△	0	0.15	24	Too Small to Calculate	
Hawaii Total	▬▬	2	4.17	617	0.48	0.08, 1.59

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Shriners Hospital for Children and Kuakini Medical Center do not perform this procedure. Excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs. Includes only procedures and associated SSIs that are reported with primary closure technique. Source of national baseline data: 2015 NHSN SSI Data. Data contained in this report were last generated on August 21, 2018.

Legend:

- ✓ = Number of infections was **lower (better)** than predicted
 - ▬▬ = Number of infections was **similar (not significantly different)** to predicted
 - ▽ = Number of infections was **higher (worse)** than predicted
 - △ = ICU patients had too few HYST procedures days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
 - 🌺 = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Inpatient *Clostridium difficile* Infection



What is a *Clostridium difficile* infection (CDI)?

Clostridium difficile, also known as “C. diff,” is a bacterium which can cause diarrhea and inflammation of the colon (large intestine). CDI usually occurs in patients who are taking or have recently taken antibiotics. The most common symptoms of CDI include watery diarrhea, fever, loss of appetite, nausea, and belly pain. *C. difficile* can live as spores outside the human body for a very long time and can be found on objects such as bed linens, bathroom fixtures, and medical equipment. It can also be spread more directly through contaminated shared equipment and the hands of healthcare providers. For more information, visit [CDC’s CDI website](#).

What are some of the things hospitals are doing to prevent CDI?

To prevent CDI, doctors, nurses, and other healthcare providers:

- Perform hand hygiene before and after caring for every patient.
- Carefully clean hospital rooms and medical equipment.
- Use [Contact Precautions](#) when caring for patients with CDI.
 - Whenever possible, a patient with CDI will have a single room or will share a room only with someone else who also has CDI.
 - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with CDI; visitors may also be asked to wear a gown and gloves.
 - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
 - Patients on contact precautions are asked to stay in their hospital rooms as much as possible.

What can you do to help prevent CDI?

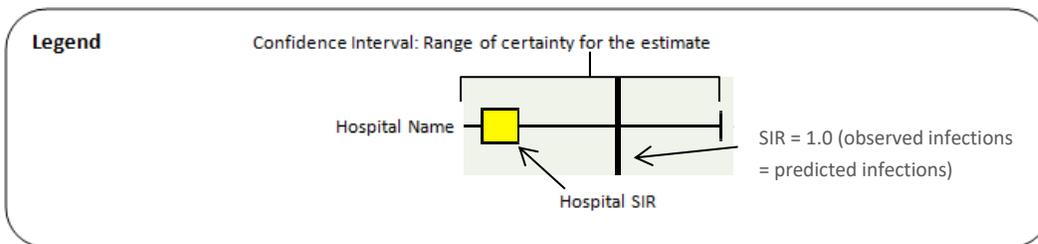
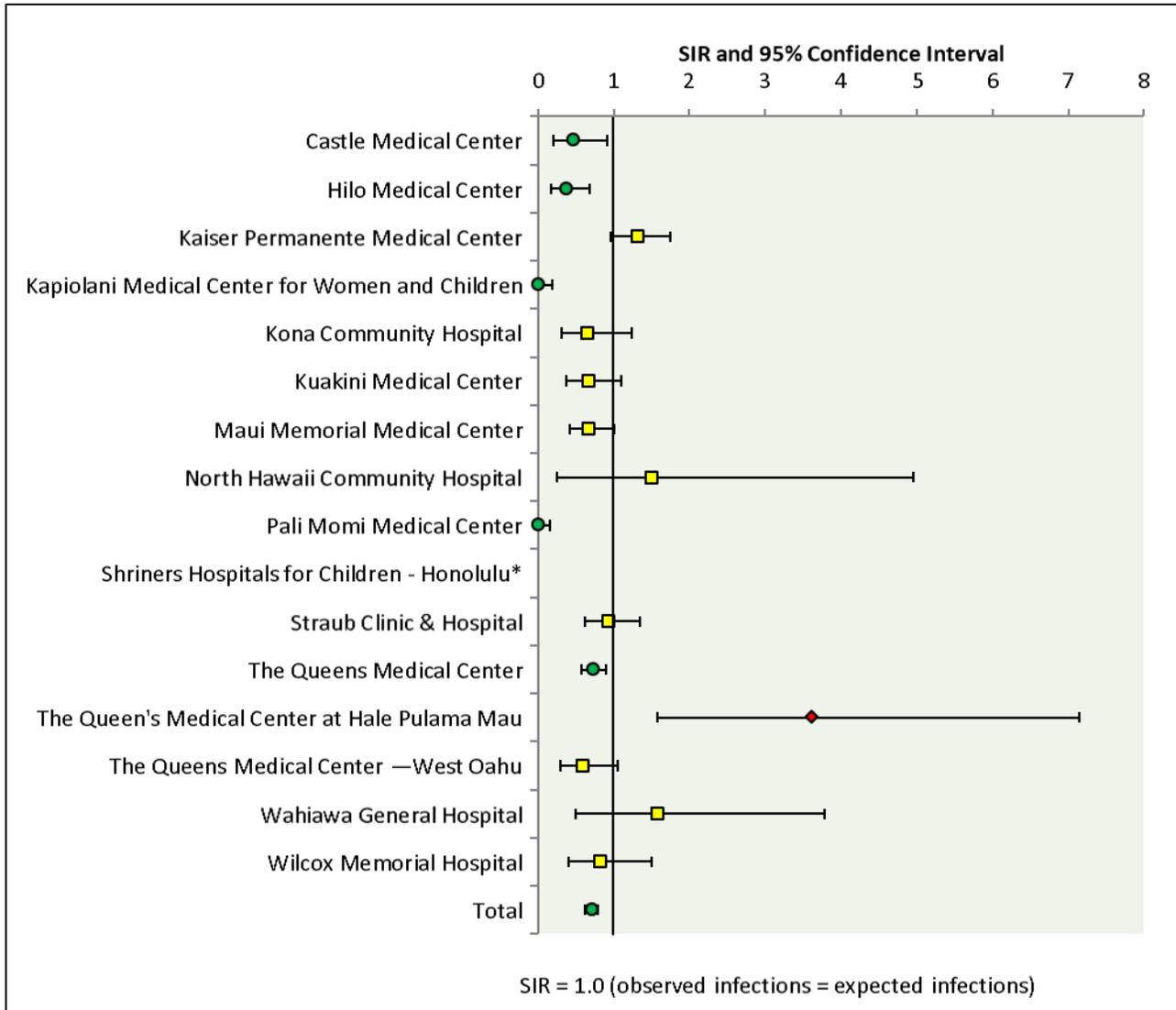
- Make sure your healthcare providers clean their hands before and after examining you. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.
- Only take antibiotics as prescribed by your doctor.
- Be sure to clean your hands often, especially after using the bathroom and before eating.

What is the current situation of CDI?

- In 2017, 237 CDI were reported within Hawaii hospitals. This was 30% lower than predicted.
- Hawaii achieved the DHHS 2020 HAI prevention target (SIR of 0.70) with an SIR of 0.70.

SIRs for Inpatient Acute Care *Clostridium difficile* Infections

January 1, 2017 – December 31, 2017



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

Inpatient *Clostridium difficile* Infections
January 1, 2017 through December 31, 2017

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Patient Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		7	15.15	31,999	0.46	0.20, 0.91
Hilo Medical Center		8	22.16	39,885	0.36	0.17, 0.69
Kaiser Permanente Medical Center		42	32.12	64,611	1.31	0.95, 1.75
Kapiolani Medical Center for Women and Children		0	15.50	51,183	0.00	0.00, 0.19
Kona Community Hospital		8	12.22	33,419	0.65	0.30, 1.24
Kuakini Medical Center		14	20.99	25,233	0.67	0.38, 1.09
Maui Memorial Medical Center		20	30.11	58,624	0.66	0.42, 1.01
North Hawaii Community Hospital		2	1.33	5,537	1.50	0.25, 4.96
Pali Momi Medical Center		0	18.55	32,580	0.00	0.00, 0.16
Shriner's Hospital for Children		0	0.16	1,049	Too Small to Calculate	
Straub Clinic & Hospital		26	28.04	44,518	0.93	0.62, 1.34
The Queen's Medical Center		80	110.12	15,3545	0.73	0.58, 0.90
The Queen's Medical Center at Hale Pulama Mau		7	1.94	8,593	3.61	1.58, 7.14
The Queens Medical Center — West Oahu		10	16.85	25,936	0.59	0.30, 1.06
Wahiawa General Hospital		4	2.55	6,156	1.57	0.50, 3.79
Wilcox Memorial Hospital		9	11.06	19,117	0.81	0.40, 1.49
Hawaii Total		237	338.84	601,985	0.70	0.62, 0.79
Kauai Veterans Memorial Hospital†		1	0.95	4293	Too Small to Calculate	

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Only laboratory confirmed inpatient healthcare-onset CDI isolates are presented. Source of national baseline data: 2015 NHSN CDI LabID Data. Data contained in this report were last generated on August 21, 2018.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

Legend:

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- = Number of infections was **higher (worse)** than predicted
- = ICU patients had too few patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia



What is methicillin-resistant *Staphylococcus aureus* (MRSA)?

Staphylococcus aureus is a very common bacterium found on the skin or in the nose of about 1 out of every 3 people. Usually, this bacterium does not cause problems for people, but under the right circumstances it can cause serious infections such as skin or wound infections, pneumonia, or infections of the blood (bacteremia). MRSA is a type of *S. aureus* which is resistant to some of the antibiotics often used to treat these infections. For more information, visit [CDC's MRSA website](#).

What are some of the things hospitals are doing to prevent MRSA infections?

To prevent MRSA infections, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before and after caring for every patient.
- Carefully clean hospital rooms and medical equipment.
- Use [Contact Precautions](#) when caring for patients with MRSA.
 - Whenever possible, a patient with MRSA will have a single room or will share a room only with someone else who also has MRSA.
 - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with MRSA; visitors may also be asked to wear a gown and gloves.
 - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
 - Patients on contact precautions are asked to stay in their hospital rooms as much as possible.

What can you do to help prevent MRSA infections?

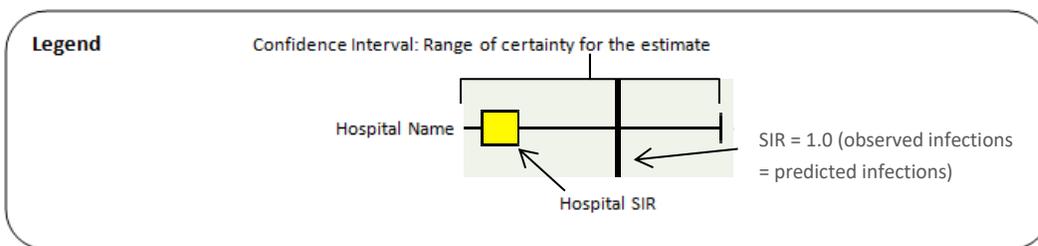
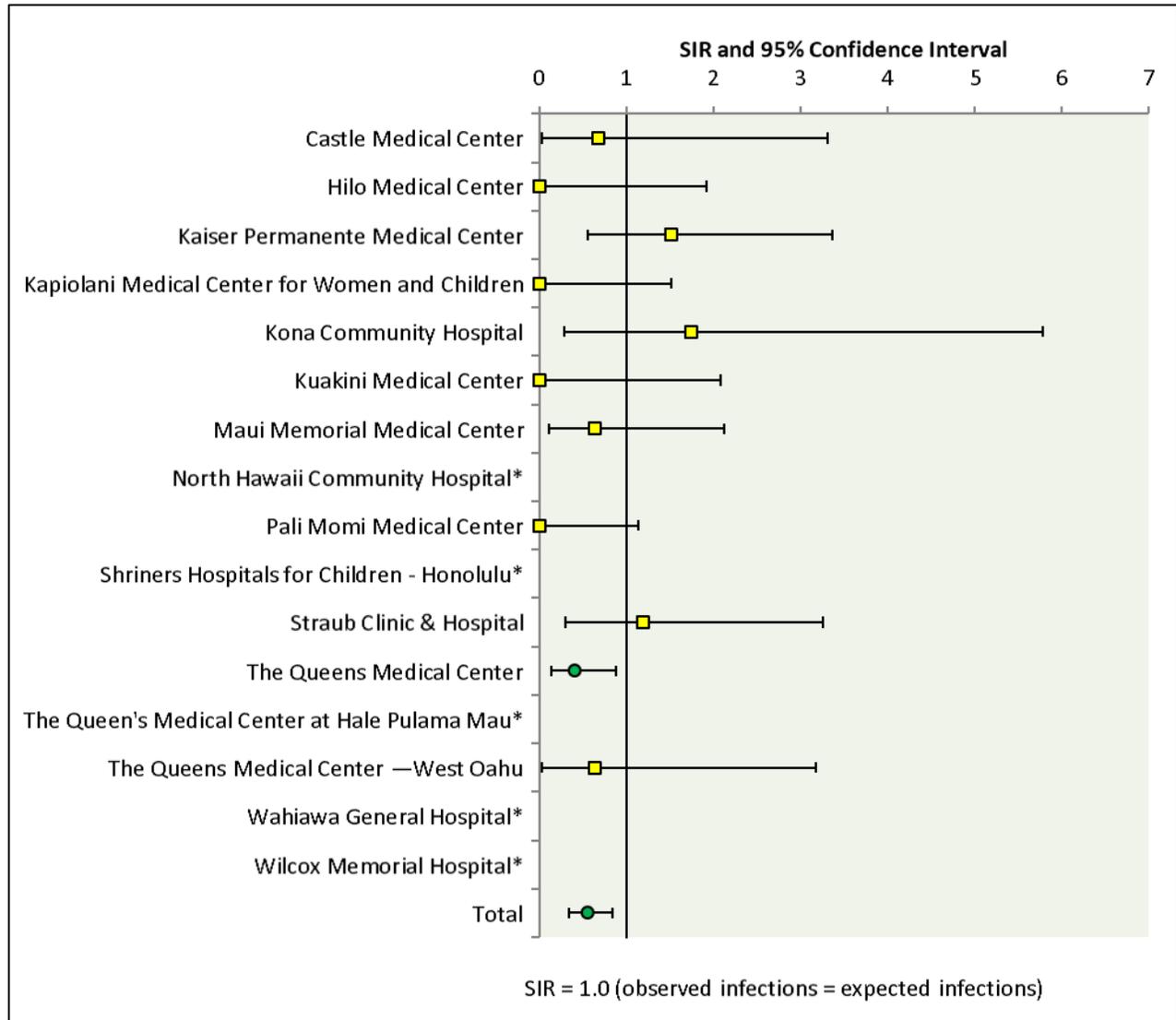
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

What is the current situation of MRSA bacteremia infections?

- In 2017, 19 MRSA bacteremia infections were reported within Hawaii hospitals. This was 45% lower than predicted.
- Hawaii achieved the DHHS 2020 HAI prevention target (SIR of 0.75) with a SIR of 0.55.

SIRs for Inpatient Acute Care Methicillin-Resistant *Staphylococcus aureus* Bacteremia

January 1, 2017 – December 31, 2017



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia

January 1, 2017 through December 31, 2017

Facility Name	Hospital Performance Compared to NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Patient Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		1	1.46	34,164	0.68	0.03, 3.31
Hilo Medical Center		0	1.56	41,883	0.00	0.00, 1.92
Kaiser Permanente Medical Center		5	3.29	68,504	1.52	0.56, 3.37
Kapiolani Medical Center for Women and Children		0	1.97	79,161	0.00	0.00, 1.52
Kona Community Hospital		2	1.14	34,513	1.75	0.29, 5.79
Kuakini Medical Center		0	1.44	25,233	0.00	0.00, 2.08
Maui Memorial Medical Center		2	3.11	61,510	0.64	0.11, 2.13
North Hawaii Community Hospital		0	0.11	5,999	Too Small To Calculate	
Pali Momi Medical Center		0	2.64	32,580	0.00	0.00, 1.14
Shriner's Hospital for Children		0	0.02	1,049	Too Small To Calculate	
Straub Clinic & Hospital		3	2.51	44,518	1.20	0.31, 3.26
The Queen's Medical Center		5	12.56	157,121	0.40	0.15, 0.88
The Queen's Medical Center at Hale Pulama Mau		0	0.26	8,593	Too Small To Calculate	
The Queens Medical Center — West Oahu		1	1.55	25,936	0.65	0.03, 3.18
Wahiawa General Hospital		0	0.24	6,156	Too Small To Calculate	
Wilcox Memorial Hospital		0	0.78	20,367	Too Small To Calculate	
Hawaii Total		19	34.63	647,287	0.55	0.31, 0.84
Kauai Veterans Memorial Hospital†		0	0.10	4,861	Too Small To Calculate	

inpatient healthcare-onset MRSA Bacteremia isolates are presented. Data contained in this report were last generated on August 21, 2018.

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia.

Legend:

= Number of infections was **lower (better)** than predicted

= Number of infections was **similar (not significantly different)** to predicted

= Number of infections was **higher (worse)** than predicted

= ICU patients had too few patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.

= Recognizes hospitals with zero infections during the specified time period

Too Small to Calculate = Predicted number of infections was less than one

Influenza Vaccination of Healthcare Personnel



What is influenza?

Influenza, also known as the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of influenza infection can result in hospitalization or death. Some people, such as older adults, young children, and people with certain health conditions, are at higher risk for serious flu complications. The best way to prevent the flu is by getting vaccinated each year. Attaining vaccination coverage of 90% of a facility's HCP is a U.S. DHHS Healthy People 2020 goal. For more information, visit CDC's influenza website.

What are some of the things hospitals are doing to prevent influenza?

To prevent influenza, healthcare facilities, doctors, nurses, and other healthcare providers ensure the following strategies:

- **Vaccination:** Annual vaccination is the most important measure to prevent seasonal influenza infection. Facilities promote and administer seasonal influenza vaccination. High HCP and patient vaccination rates are critical steps in preventing healthcare transmission of influenza.
- **Cough Etiquette:** Ensure providers cover their mouth and nose when coughing or sneezing with a tissue or their elbow and then clean their hands with soap and water or an alcohol-based hand rub.
- **Management of Ill Workers:** Ensure ill workers stay home, or if at work, stop patient-care activities, wear a facemask, and promptly notify their supervisor and infection control personnel/occupational health before leaving work.
- **Infection Control:** Adhere to infection prevention precautions for all patient-care activities and aerosol-generating procedures.
- **Environmental Cleaning:** Carefully clean hospital rooms and medical equipment.

What can you do to help prevent influenza infections?

- The single best way to prevent the flu is get vaccinated against flu each season.
- Practice cough etiquette and cover your mouth or nose when you cough or sneeze.
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to clean their hands.

What is the current situation of Healthcare Personnel Influenza (HCP)

Vaccination?

- For the 2017–2018 influenza season, the overall State average vaccination coverage was 84%.
- Only 8 facilities in Hawaii have achieved the DHHS Healthy People 2020 goal of 90% vaccination coverage.
- For context, the overall state average vaccination coverage for the 2016–2017 was 82%, and the national average was 88%.

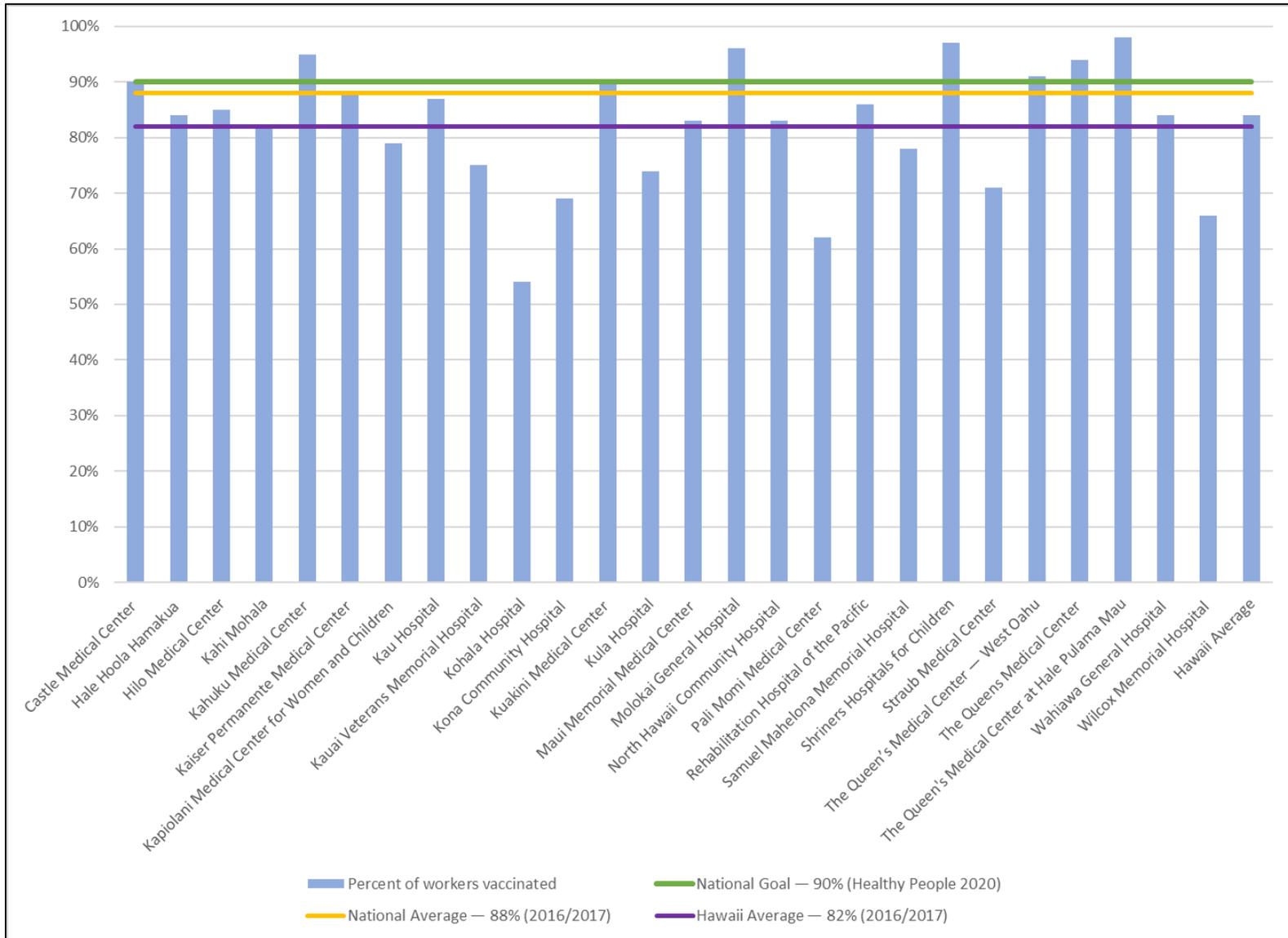
**Healthcare Personnel Influenza Vaccination—All Healthcare Workers
October 1, 2017 through March 31, 2018**

Facility Name	Vaccinated at Facility	Vaccinated Elsewhere	Total Vaccinated	Total number of workers	Number of Contraindications	Number of declinations	Percent of workers vaccinated
Castle Medical Center	934	424	1,358	1,503	3	92	90%
Hale Hoola Hamakua	106	12	118	140	0	19	84%
Hilo Medical Center	927	169	1,096	1,295	33	141	85%
Kahi Mohala*	173	208	381	466	3	22	82%
Kahuku Medical Center	133	60	193	204	0	7	95%
Kaiser Permanente Medical Center	2,097	228	2,325	2,657	38	171	88%
Kapiolani Medical Center for Women and Children	1,408	929	2,337	2,953	19	247	79%
Kau Hospital	57	5	62	72	4	5	87%
Kauai Veterans Memorial Hospital	218	9	227	303	14	46	75%
Kohala Hospital	30	9	39	72	0	33	54%
Kona Community Hospital	407	20	427	617	3	135	69%
Kuakini Medical Center	714	720	1,434	1,602	16	121	90%
Kula Hospital	125	6	131	178	1	42	74%
Maui Memorial Medical Center	1,325	0	1,325	1,601	4	249	83%
Molokai General Hospital	94	15	109	113	0	2	96%
North Hawaii Community Hospital	288	183	471	567	2	50	83%
Pali Momi Medical Center	674	521	1,195	1,927	20	283	62%
Rehabilitation Hospital of the Pacific*	337	248	585	679	7	62	86%
Samuel Mahelona Memorial Hospital	109	11	120	154	6	23	78%
Shriner's Hospital for Children	274	212	486	499	0	8	97%
Straub Clinic & Hospital	1,242	647	1,889	2,659	31	398	71%
The Queen's Medical Center	4,929	1,607	6,536	6,983	36	174	94%
The Queen's Medical Center at Hale Pulama Mau	129	2	131	134	0	1	98%
The Queens Medical Center — West Oahu	827	249	1,076	1,180	10	32	91%
Wahiawa General Hospital	250	172	422	505	8	15	84%
Wilcox Memorial Hospital	456	174	630	951	26	197	66%
Hawaii Total	18,206	6,835	25,041	29,942	280	2,570	84%

Note: * Rehabilitation Hospital of the Pacific participates in the CMS Inpatient Rehabilitation Facility Quality Reporting Program and Kahi Mohala participates in the CMS Inpatient Psychiatric Facility Quality Reporting Program; their data may not be comparable to acute care facility data. Data contained in this report were last generated on Sept 14, 2018.

Influenza Vaccination Coverage of Healthcare Personnel⁹ by Facility

October 1, 2017 – March 31, 2018



Note: National average from the CDC's FluVaxView 2016-17 Influenza Season Health Care Personnel Vaccination Dashboard

<https://www.cdc.gov/flu/fluview/healthcare/report1617/reporti/index.html>

State average from Healthcare-Associated Infections in Hawaii – 2016 report: <https://health.hawaii.gov/docd/files/2017/10/HAI-Report-2016-Final.pdf>

National goal obtained from Healthy People Objective IID-12.13:

<http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=23>. Additionally, TJC requires facilities to set incremental goals to reach 90%. http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf

⁹ HCP include employees, licensed independent practitioners, adult students/trainees and volunteers. There is an optional category that includes other contract personnel: direct care providers and providers of non-direct services such as maintenance, IT, or dietary food staff.

Hospital Summary Table (2017) – Respective Healthcare Associated Infection SIRs Compared with NHSN National Baseline

Facility Name	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Castle Medical Center						
Hilo Medical Center						
Kaiser Permanente Medical Center						
Kapiolani Medical Center for Women and Children			**			
Kona Community Hospital						
Kuakini Medical Center				**		
Maui Memorial Medical Center						
North Hawaii Community Hospital						
Pali Momi Medical Center						
Shriner's Hospital for Children	**	**	**	**		
Straub Clinic & Hospital						
The Queen's Medical Center						
The Queen's Medical Center at Hale Pulama Mau			**	**		
The Queens Medical Center – West Oahu				**		
Wahiawa General Hospital				**		
Wilcox Memorial Hospital						
Hawaii Total						
Kahuku Medical Center†			**	**	**	**
Kauai Veterans Memorial Hospital†						

† CAHs utilize different models to calculate the number of predicted infections, and are therefore separated for CLABSI, CAUTI, CDI & MRSA Bacteremia

Legend:

- = Number of infections was lower (better) than predicted
- = Number of infections was similar (not significantly different) than predicted
- = Number of infections was higher (worse) than predicted
- = The facility had too few device days/procedures or patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- ** = Surveillance not mandated for reporting into NHSN on this device or procedure, or procedure not performed at this facility.

Hospital Summary Table (2017) – SIRs

Facility Name	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Castle Medical Center	0.25	0.00	Too Small	Too Small	0.46	0.68
Hilo Medical Center	0.00	0.31	0.00	Too Small	0.36	0.00
Kaiser Permanente Medical Center	0.18	0.58	0.50	Too Small	1.31	1.52
Kapiolani Medical Center for Women and Children	0.39	Too Small	**	Too Small	0.00	0.00
Kona Community Hospital	0.00	2.39	Too Small	Too Small	0.65	1.75
Kuakini Medical Center	0.26	0.55	0.70	**	0.67	0.00
Maui Memorial Medical Center	0.60	2.15	1.52	Too Small	0.66	0.64
North Hawaii Community Hospital	Too Small	Too Small	Too Small	Too Small	1.50	Too Small
Pali Momi Medical Center	0.33	0.66	0.48	Too Small	0.00	0.00
Shriner's Hospital for Children	**	**	**	**	Too Small	Too Small
Straub Clinic & Hospital	0.39	1.43	1.30	Too Small	0.93	1.20
The Queen's Medical Center	0.34	0.66	1.14	0.53	0.73	0.40
The Queen's Medical Center at Hale Pulama Mau	Too Small	Too Small	**	**	3.61	Too Small
The Queens Medical Center — West Oahu	0.00	1.45	Too Small	**	0.59	0.65
Wahiawa General Hospital	Too Small	Too Small	Too Small	**	1.57	Too Small
Wilcox Memorial Hospital	0.00	2.55	1.77	Too Small	0.81	Too Small
Hawaii Total	0.29	0.86	0.87	0.48	0.70	0.55

Too Small = The number of predicted infections is less than 1.0, the number of device days or procedures in that facility is too low to calculate a reliable SIR

** = Surveillance not mandated for reporting into NHSN on this device or procedure, or procedure not performed at this facility.

Conclusion

In 2017, a total of 376 HAIs were reported, including 238 CDI, 65 CAUTI, 28 CLABSI, 26 SSIs, and 19 MRSA bacteremia events. Overall, the number for each HAI reported was lower than predicted compared to the national baseline, with CLABSI, CDI and MRSA being statistically significant.

Unfortunately, SIRs previously presented under the old baseline (e.g. 2012-2015 data) cannot be directly compared to SIRs collected under the [updated baseline](#) (based on 2015 data). With the 2017 and subsequent HAI Reports we will be able to compare two years' worth of data (e.g. 2016 vs 2017).

Condition	2016			2017			Difference in Observed HAIs	Relative Change: 2016 vs 2017 State SIR
	Observed	Predicted	SIR	Observed	Predicted	SIR		
CLABSI (Acute Care ICUs & Medical/Surgical Wards)	44	87.86	0.50	27	92.89	0.29	-17	41% Decrease **
CAUTI (Acute Care ICUs & Medical/Surgical Wards)	45	72.66	0.62	65	75.93	0.86	20	38% Increase
COLO	22	27.11	0.81	24	27.45	0.87	2	8% Increase
HYST	4	4.34	0.92	2	4.17	0.48	-2	47.9% Decrease
CDI	246	335.68	0.73	237	338.84	0.70	-9	5% Decrease
MRSA	12	31.82	0.38	19	34.63	0.55	7	46% Increase

** denotes statistical significance

Hawaii continues to work towards longer-term goals. In 2009, the U.S. DHHS developed [the National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination](#), which identified the HAI measures recommended for continued monitoring and provided a roadmap for HAI prevention in acute care hospitals. The Action Plan included 5-year Prevention Targets to be achieved by 2013. In October 2016, U.S. DHHS announced new [Prevention Targets](#) to reach by 2020. In 2017, Hawaii achieved the target SIR for each condition, with the exception of SSIs and CDI (see below).

Condition	2020 Target	Hawaii 2017 SIR	Target:
CLABSI (Acute Care ICUs & Medical/Surgical Wards)	0.50 SIR or 50% lower than predicted	0.29 SIR or 71% lower than predicted	Achieved
CAUTI (Acute Care ICUs & Medical/Surgical Wards)	0.75 SIR or 25% lower than predicted	0.86 SIR or 14% lower than predicted	Not Achieved
SSI (combined)	0.75 SIR or 25% lower than predicted	0.82 SIR or 18% lower than predicted	Not Achieved
CDI	0.70 SIR or 30% lower than predicted	0.70 SIR or 30% lower than predicted	Achieved
MRSA	0.75 SIR or 25% lower than predicted	0.55 SIR or 45% lower than predicted	Achieved

Efforts to date by the healthcare community have resulted in the prevention of hundreds of HAIs in 2017. This results in improved patient outcomes, decreases in re-hospitalization and long-term rehabilitation, and savings in direct healthcare costs. HDOH, working with stakeholders, will continue to monitor trends and promote prevention strategies with a goal of elimination of HAIs as a public health concern.

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Appendix 1 – Acronyms:

CAUTI	Catheter-associated urinary tract infections
CDC	Centers for Disease Control and Prevention
CDI	<i>Clostridium difficile</i> infection
CI	Confidence interval
CLABSI	Central line-associated bloodstream infections
CMS	Centers for Medicare and Medicaid Services
COLO	Colon surgeries
DHHS	Department of Health and Human Services
HAIs	Healthcare-associated infections
HCP	Healthcare personnel
HDOH	Hawaii Department of Health
HYST	Abdominal hysterectomy
ICU	Intensive care unit (also known as critical care unit)
IQR	Inpatient quality reporting
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
NHSN	National Healthcare Safety Network
NICU	Neonatal intensive (critical) care unit
SIR	Standardized infection ratio: $SIR = \frac{\text{Observed HAIs}}{\text{Expected HAIs}}$
SSI	Surgical site infections
TJC	The Joint Commission

Appendix 2 – CLABSI in Acute Care ICUs and NICUs

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Source of national baseline data: 2015 NHSN CLABSI Data. Data contained in this report were last generated on Aug 21, 2018.

Central Line-Associated bloodstream Infections in ICU locations January 1, 2017 through December 31, 2017						
Facility Name	Hospital Performance Compared To NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Central Line Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		1	1.24	1,641	0.81	0.04, 3.99
Hilo Medical Center 		0	0.74	847	Too Small to Calculate	
Kaiser Permanente Medical Center 		0	6.66	5,464	0.00	0.00, 0.45
Kapiolani Medical Center for Women and Children		5	15.50	13,099	0.32	0.12, 0.72
Kona Community Hospital 		0	0.60	791	Too Small to Calculate	
Kuakini Medical Center		1	1.99	2,269	0.50	0.03, 2.48
Maui Memorial Medical Center		1	3.32	4,403	0.30	0.02, 1.49
North Hawaii Community Hospital 		0	0.12	182	Too Small To Calculate	
Pali Momi Medical Center		1	1.92	1,955	0.58	0.03, 2.58
Straub Clinic & Hospital 		0	2.27	3,018	0.00	0.00, 1.32
The Queen's Medical Center		3	12.94	11,469	0.23	0.06, 0.63
The Queens Medical Center — West Oahu 		0	0.73	935	Too Small to Calculate	
Wahiawa General Hospital 		0	0.38	483	Too Small to Calculate	
Wilcox Memorial Hospital 		0	0.42	627	Too Small to Calculate	
Hawaii Total		12	48.82	47,183	0.25	0.13, 0.42

Legend:

-  = Number of infections was **lower (better)** than predicted
-  = Number of infections was **similar (not significantly different)** to predicted
-  = Number of infections was **higher (worse)** than predicted
-  = ICU patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
-  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Appendix 3 – CAUTIs in Acute Care ICUs

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Source of national baseline data: 2015 NHSN CAUTI Data. Data contained in this report were last generated on Aug 27, 2018.

Catheter-Associated Urinary Tract Infections in ICUs locations January 1, 2017 through December 31, 2017						
Facility Name	Hospital Performance Compared To NHSN National Data	Number of Infections	Number of Predicted Infections	Number of Catheter Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center 		0	1.10	1503	0.00	0.00, 2.73
Hilo Medical Center		0	2.51	3011	0.00	0.00, 1.19
Kaiser Permanente Medical Center		5	5.39	3918	0.93	0.34, 2.06
Kapiolani Medical Center for Women and Children		2	0.65	772	Too Small to Calculate	
Kona Community Hospital		3	0.98	1345	Too Small to Calculate	
Kuakini Medical Center		1	1.04	1253	0.96	0.05, 4.72
Maui Memorial Medical Center		9	3.50	3908	2.57	1.25, 4.72
North Hawaii Community Hospital		0	0.17	305	Too Small to Calculate	
Pali Momi Medical Center 		0	1.94	1827	0.00	0.00, 1.54
Straub Clinic & Hospital		3	2.15	2941	1.40	0.36, 3.80
The Queen's Medical Center		8	17.32	9438	0.46	0.22, 0.8
The Queens Medical Center – West Oahu 		2	0.87	1391	Too Small to Calculate	
Wahiawa General Hospital		1	0.25	395	Too Small to Calculate	
Wilcox Memorial Hospital		0	0.42	764	Too Small to Calculate	
Hawaii Total		34	38.30	32,771	0.89	0.63, 1.23

Legend:

-  = Number of infections was **lower (better)** than predicted
-  = Number of infections was **similar (not significantly different)** to predicted
-  = Number of infections was **higher (worse)** than predicted
-  = ICU patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
-  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

Appendix 4- HAI Advisory Committee

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